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STATUS REPORT FOR FUMIGANT PESTICIDES

April, 2003

I. SCHEDULED AIR MONITORING

At the request of the Department of Pesticide Regulation (DPR), the methyl bromide registrants are conducting ambient air monitoring in Monterey, Santa Cruz, and Ventura counties. The methyl bromide registrants collected air samples at four sites in Ventura in July and August 2002, and at five sites in Monterey and Santa Cruz counties during September and October 2002. The registrants submitted the monitoring report to DPR in April 2003.

II. ACUTE BUFFER ZONE MODELING

DPR utilizes a standard methodology to calculate buffer zones for acute exposures. Fumigant pesticide registrants and some grower groups have suggested some specific refinements to the current modeling methodology that they believe will improve the procedure and incorporate local information and more representative meteorological conditions. Industry has proposed an alternative approach to DPR's modeling procedures. Their approach would incorporate historical weather data, revising the method to estimate flux and the method to determine the size of buffer zones. The alternative approach would be utilized by the industry at their discretion in specific areas. The standard DPR model would remain in place statewide. DPR awaits the industry's results of using their methodology to identify regions of the state with comparable weather conditions through statistical analysis once weather data have been gathered and incorporated into the model.

III. METHYL BROMIDE

1. Risk Assessment/Data Evaluation

- The Air Resources Board (ARB) and methyl bromide registrants conducted ambient air monitoring for methyl bromide during the 2001 pesticide use season. ARB conducted monitoring at six sites in Kern County during July and August 2001, and six sites in Monterey and Santa Cruz counties between September and early November 2001. The methyl bromide registrants conducted monitoring at four sites in Ventura County and four sites in Santa Barbara County between mid-August and mid-October 2001. In general, methyl bromide air concentrations in 2001 declined from those detected in 2000. The eight-week average air concentrations were lower at eight of the ten sites monitored in both years. DPR's reference concentration for subchronic exposure (one part per billion [ppb] average concentrations over the eight-week monitoring period) was exceeded at seven of the 20 monitoring sites, including five of the six sites in Monterey and Santa Cruz counties. *(DPR scientists refer to reference concentrations identified*

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in risk assessments. Reference concentrations indicate when further investigation of monitoring data is warranted; the values do not necessarily dictate regulatory action.) The highest eight-week average concentration detected was 5.5 ppb. None of the one-day or one-week average air concentrations exceeded the reference concentrations. Detailed reports of the monitoring can be found on DPR's Web page at:

<http://www.cdpr.ca.gov/docs/empmpubs/tac/methylbr.htm>

- DPR scientists have completed revisions to the methyl bromide risk characterization document for inhalation (February 14, 2002) to incorporate the National Academy of Science peer review comments. This risk characterization document for methyl bromide has been approved and distributed.

2. Risk Management Status

- ARB and the methyl bromide registrants submitted reports to DPR describing air monitoring in high use areas of Kern, Monterey, Santa Cruz, Ventura, and Santa Barbara counties in 2001. DPR preliminary data analysis indicates that eight-week average air concentrations exceed DPR's reference concentration at several locations and that air concentrations are correlated to use patterns. The preliminary data analysis is available on DPR's Web page at:

<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/exposre.htm>

DPR will conduct additional data analyses once it compiles all methyl bromide use data for 2001 and receives corrections to the methyl bromide registrants' monitoring report. DPR will also analyze 2002 air monitoring data when it is provided by the methyl bromide registrants.

As provided in the settlement of the Carrillo lawsuit (see next bullet), DPR will use all available monitoring data in considering the regulation of subchronic exposure to methyl bromide.

- In 2001 in the Carrillo v. DPR and Monterey County Agricultural Commissioner lawsuit, the Superior County of California, Monterey County, issued a temporary restraining order for methyl bromide soil fumigation applications near the La Joya Elementary School and the Pajaro Middle School in Monterey County, and later issued a preliminary injunction. DPR and the Monterey County Agricultural Commissioner appealed the Court's issuance of the preliminary injunction. The appeal stayed the preliminary injunction.

The Carrillo lawsuit was settled in May 2002. Under the settlement terms, DPR will review and consider the regulation of subchronic exposure to methyl bromide within its re-promulgation of methyl bromide field fumigation regulations. DPR received a new subchronic methyl bromide inhalation toxicity study in dogs. DPR evaluated this study and all other subchronic toxicity studies as part of its re-promulgation process. DPR also agreed to follow the consultation procedures in AB 1807 in readopting these regulations. The settlement also stipulated that in the 2002 use season, the commissioner would develop a plan for areas within 1500 feet of Pajaro Middle School and La Joya Elementary School for methyl bromide applications, and applications will take place while school is not in session. The preliminary injunction was vacated, and the appeal of the preliminary injunction will be withdrawn.

As part of the re-promulgation process, DPR held a workshop on February 26, 2003 to receive input from interested parties on the regulatory value selected for subchronic exposure. Comments were received until the end of March 2003.

- DPR convened a Methyl Bromide Interagency Workgroup on March 12, 2003 to discuss the need for an appropriate degree of control measures for acute and subchronic exposures.
- The Environmental Defense Center et al lawsuit and the Ventura County Agricultural Association et al lawsuit were consolidated and heard in San Francisco on February 21, 2002. The Court issued its written decision on April 9, 2002.

The Court's order declared certain methyl bromide field fumigation regulations void, and stayed that order for 45 days to allow DPR time to file emergency regulations. In May, the Court extended the stay of its April 9 order to September 23, 2002, at the request of the Ventura County Agricultural Association. DPR re-filed the emergency regulations to replace the regulations voided by the Court order. The emergency regulations became effective on September 22, 2002. The emergency regulations were readopted on January 21, 2003, and are effective through May 21, 2003. DPR will begin the rulemaking process to permanently adopt regulations in early May 2003.

3. Other Regulatory Issues

- The Enforcement Branch is moving forward to resolve issues associated with the use of methyl bromide to treat imported commodities at ports of entry. Many of the commodities and uses are not included on the product's labeling. The U.S.

Department of Agriculture (USDA) has maintained that the treatments are legal under the Federal Insecticide, Fungicide, and Rodenticide Act Section 18 exemptions.

The Enforcement Branch has received documentation from the U.S. Environmental Protection Agency (U.S. EPA) confirming methyl bromide applications as valid Section 18 exemptions and is currently awaiting additional information from USDA. The U.S. EPA letter, dated January 30, 2003, states in part "...methyl bromide is used in port areas to ensure that imported commodities do not inadvertently harbor non-indigenous and quarantined pests." Once all proper documentation is received, Enforcement will be notifying county agricultural commissioners.

4. Critical Use Exemption Under the Clean Air Act

- U.S. EPA created opportunities for seeking a critical use exemption (CUE) allowing the use of methyl bromide after the complete phase out in 2005. U.S. EPA submitted a nomination package with other federal agencies to the Secretariat of the Montreal Protocol in January 2003. The package included several California commodities.

IV. 1,3-DICHLOROPROPENE

- ARB conducted ambient air monitoring for 1,3-Dichloropropene (1,3-D) during the 2001 pesticide use season. ARB conducted monitoring at the same 12 sites and time periods as methyl bromide. In general, 1,3-D air concentrations in 2001 decreased from those detected in 2000 for Kern County, and increased for Monterey and Santa Cruz counties. None of the one-day, one-week, or eight-week average air concentrations exceeded the reference concentrations. Evaluation of chronic exposure and risk is still in progress. Detailed reports of the monitoring can be found on DPR's Web page at:

<http://www.cdpr.ca.gov/docs/empm/pubs/tac/methylbr.htm>

- DPR's Pesticide Enforcement Branch has finalized an Enforcement Letter that supersedes ENF 01-40, Suggested Permit Conditions for Using 1,3-Dichloropropene Pesticides (Fumigant).

The revised Enforcement Letter, ENF 02-37, Recommended Permit Conditions for Using 1,3-Dichloropropene Pesticides (Fumigant), contains three major changes from the previous Enforcement Letter. These changes include:

1. Implementing Dow AgroSciences' California Management Plan: 1,3-Dichloropropene, throughout California.
2. An application factor of 1.2 for those areas outside the San Joaquin Air Basin, from February through November, at a depth of 18 inches or deeper.
3. A clarification on utilizing the label exception (100 foot permit condition buffer zone).

The revised Enforcement Letter, ENF 02-37 has been posted on DPR's Web site at:
<http://www.cdpr.ca.gov/docs/enfcmpli/penfltrs/penf2002/2002menu.htm>

Information on the California Management Plan: 1,3-Dichloropropene is found at the following DPR Web site:
<http://www.cdpr.ca.gov/docs/dprdocs/methbrom/telone/mgmtplan.pdf>

V. CHLOROPICRIN

1. Risk Assessment/Data Evaluation

- ARB conducted ambient air monitoring for chloropicrin during the 2001 pesticide use season. ARB conducted monitoring at the same 12 sites and time periods as the other fumigants. ARB submitted the draft report to DPR in January 2003. ARB also conducted air monitoring near a chloropicrin application site during October and November 2001. ARB submitted the draft report to DPR in October 2002. ARB is preparing the final report.
- On October 16, 2001, DPR placed all products containing chloropicrin into reevaluation. The reevaluation is based on data submitted under the Birth Defect Prevention Act. These data indicate that chloropicrin has the potential to cause adverse health effects at low doses. Air monitoring data submitted by the Chloropicrin Manufacturers Task Force indicate that the air levels of chloropicrin at some distances from treated greenhouses or fields could exceed the NIOSH standard of 0.1 ppm. Under the reevaluation, chloropicrin registrants are required to submit: (1) worker exposure studies for each type of chloropicrin fumigation site, and (2) ambient air quality monitoring and flux measurements from field and greenhouse applications, if methods other than the ones for which DPR already has data are to be employed.

In May 2002, DPR received draft protocols for a worker exposure and air monitoring study, and a vapor trapping efficiency study. In August 2002, in response to DPR's review, the Task Force submitted a revised draft protocol for

the worker exposure and air monitoring studies. Fieldwork is projected to be conducted October 2002 through October 2003.

- Chloropicrin is currently in the risk assessment process.

VI. MITC GENERATING COMPOUNDS

1. Risk Assessment/Data Evaluation

- ARB conducted ambient air monitoring for MITC and methyl isocyanate during the 2001 pesticide use season. ARB conducted monitoring at the same 12 sites and time periods as the other fumigants. ARB submitted the draft report to DPR in January 2003.
- The Scientific Review Panel (SRP) accepted DPR's toxic air contaminant risk assessment for MITC at its April 26, 2002 meeting. Final acceptance of the document occurred on August 7, 2002. The SRP was satisfied with the additional information and issued its findings on August 8, 2002. Based on the risk assessment and the SRP's findings, DPR issued a notice proposing to declare MITC and other pesticides that generate MITC as toxic air contaminants. DPR is following up with rulemaking to add MITC and other pesticides that generate MITC to the list of toxic air contaminants in regulation. DPR noticed the regulations to list MITC and other pesticides that generate MITC as toxic air contaminants in December 2002 and the public comment period ended in February 2003. DPR will submit the regulation for review by the Office of Administrative Law in April 2003.
- In April 2002, the Metam Sodium Manufacturers Task Force submitted several reports containing monitoring data of current application practices and modified application practices.

2. Risk Management Status

- DPR received the findings of the SRP and released the risk assessment. DPR initiated the process of developing mitigation measures to reduce acute offsite exposures. DPR requested a proposal from the registrants on mitigation measures to address these exposures.
- On December 2, 2002, DPR issued a public document that outlines its risk management decision.

- DPR received mitigation proposals from the Metam Sodium Manufacturers Task Force and one other registrant in March 2003. DPR will review the proposals and prepare a mitigation strategy. DPR will meet with county agricultural commissioners and other government agencies prior to meeting with external stakeholders.

VII. SULFURYL FLUORIDE

1. Risk Assessment/Data Evaluation

- Sulfuryl fluoride is currently in the risk assessment process.
- ARB monitored a structural fumigation in Sacramento County during October 2002. ARB will likely monitor additional structural fumigations in 2003.

2. New Products/Uses

- Registration of an experimental use permit for application of sulfuryl fluoride as a methyl bromide alternative in food commodity fumigation has been denied based on inadequate precautionary statement language.

VIII. PHOSPHINE

- DPR noticed a regulation to list phosphine and other pesticides that generate phosphine as toxic air contaminants in December 2002, and the public comment period ended in February 2003. DPR submitted the regulation for review by the Office of Administrative Law in February 2003.

IX. POTENTIAL NEW FUMIGANTS/FUMIGANT ALTERNATIVES

- DPR has received applications from Arvesta, formerly Tomen Agro, to register products containing the active ingredient iodomethane (methyl iodide). DPR and the U.S. Environmental Protection Agency are conducting a joint review of the off-site air monitoring data.

In 2002, Arvesta conducted a worker exposure study for methyl iodide using a shallow broadcast tarp application via shank injection. They have received approval to conduct a study involving methyl iodide employing tarped/raised bed shank injection methodology.

Arvesta also submitted a 90-day subchronic oral (capsule) toxicity study in dogs. The study was acceptable, but showed possible adverse effects.

- DPR registered NutGuard-V FruitGuard-V, which is manufactured by AgriVir, LLC and contains the new active ingredient Indian meal moth granulosis virus. This product is very specific and controls only Indian meal moths. It is registered for use on dried fruit, nuts, and processing, packing, and storage areas. This product may replace some post-harvest uses of methyl bromide.